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ABSTRACT

Recent attention has been focused on the possibility that some women may fear success in competitive achievement situations. The present research suggested that fear of success might be mediated by an anxiety process of a self-presentational process. Experiments were conducted which attempted to distinguish between the two. In addition, studies were conducted to assess (1) the concept of dissimulation, (2) the "real world" effects of fear of success in a competitive academic environment, and (3) the negative consequences which result from being a relatively successful woman. The results indicated that: the performance decrement of high fear of success in women is less robust than previously thought; dissimulation is acknowledged by women in subtle forms and under rather specified conditions; fear of success does affect academic behavior, though nor necessarily academic performance, in the real world for both sexes; and whereas relatively successful women are perceived to possess traditionally masculine traits (e.g., intelligence), these traits are evaluated negatively rather than positively. Implications and future research direction were discussed. (Author)

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Final Report

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Intellectual Competition and the Female Student

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Preface

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Table of Contents

		Page
1.	Introduction	1
2.	Method - Experiment 1	4
3.	Results - Experiment 1	7
4.	Method - Experiment 2	12
5.	Results - Experiment 2	14
6.	Method - Experiment 3	16
7.	Results - Experiment 3	18
8.	Method - Experiment 4	20
9.	Results - Experiment 4	22
10.	Method - Experiment 5	24
11.	Results - Experiment 5	26
12.	Method - Experiment 6	30
13.	Results - Experiment 6	32
14.	Conclusions and Research in Progress	35
15.	References	39
16.	Footnotes	41
17.	Appendix A	42
18.	Appendix B	45

List of Tables

		Page
Table 1	Mean Number of Trials with All Responses Correct; All Subjects (Experiment 1)	7
Table 2	Mean Number of Trials with All Responses Correct; Low Fear of Success Subjects (Experiment 1)	8
Table 3	Mean Number of Trials with All Responses Correct; Male Competitive Conditions (Experiment 1)	9
Table 4	Mean Visual Duration Threshold in Milliseconds (Experiment 2)	14
Table 5	Mean Visual Duration Threshold in Milliseconds (Experiment 3)	18
Table 6	Law School Experience (Experiment 5)	27
Table 7	Mean Perceived Traditional Stereotype (Experiment 6)	32
Table 8	Mean Perceived Intellectual Desirability (Experiment 6)	33
Table 9	Mean Perceived Social Desirability (Experiment 6)	33

Introduction

Within the last few years social scientists have begun to take a closer look at the American female. Although research has been mainly sociological in nature (cf. Hochschild, 1970), psychologists, as well, have become interested in sex differences for both theoretical and practical reasons. To a large extent this interest has focused on the socialization of sex roles with consequent sex differences in various abilities, personality traits, and attitudes (cf. Lewis, 1968).

Following the recent work by Martina Horner (1968, 1970, 1972) on sex differences in achievement motivation, however, psychologists have also begun to pay more attention toward the effects which various social situations have upon female behavior. Horner's work, in particular, indicated that a certain group of female students performed less well on intellectual tasks when they were in competition with other male and female students than when they performed such tasks alone. Male students, in contrast, tended to improve when they were challenged by competition. Through an analysis of TAT responses of the students, Horner found that she could identify those women whose performance had deteriorated with competition as being motivated by a desire to avoid success. That is, in addition to being motivated by achievement concerns, these females were also motivated by fear of anticipated success. Whereas it was previously assumed that the higher rate of test anxiety in women was aroused by a fear of failure, Horner suggested that this sort of anxiety was primarily due to fear of success.

The TAT which Horner employed was a verbal cue rather than the traditional pictorial ones. However, the basic assumption was the same: that an analysis of fantasy or imaginative behavior can assess, with validity and reliability, individual differences in motive strength. TAT responses were scored as "fear of success" when they contained one of the following types of imagery:

1. Negative consequences because of the success;
2. Anticipation of negative consequences because of the success;
3. Negative affect because of the success;
4. Instrumental activity away from present or future success;
5. Any direct expression of conflict about the success;

6. Denial of effort in attaining the success;
7. Denial of the situation described by the cue; and
8. Bizarre, inappropriate, unrealistic, non-adaptive responses to the situation described by the cue.

Horner administered the TAT to a group of male and female undergraduates at the University of Michigan. Males were asked to write an imaginative story to the cue, "At the end of first term finals, John finds himself at the top of his medical school class." Females were given the same instructions but the person in the cue was female: "At the end of first term finals, Anne finds herself at the top of her medical school class." The results indicated that 65% of the females wrote fear of success stories to this cue, whereas only 8% of the males did so. Three major categories of response characterized the female fear of success stories. One was that the end result of success would be social rejection--loss of popularity, loneliness, unmarriageability. Another was concern with one's normality and femininity because of the achievement orientation. A third category involved denial of the apparent success--attribution of the success to luck, cheating, or simply denying that it occurred.

These results led Horner to postuate the following: Because (a) achievement is perceived as being due, in part, to competitiveness, (b) competitiveness is a form of aggressive behavior, and (c) aggressiveness is presumed to be a masculine trait, success in an achievement situation, especially a competitive situation, implies a loss of femininity. This, in turn, causes conflict and anxiety and the anticipation of negative consequences as a result of the loss of femininity. Thus the motive to avoid success develops as an important determinant of behavior for some women, interfering with and inhibiting their motive to achieve.

While this analysis (and these results) imply that competitive situations may adversely affect the intellectual behavior of some female students, several important, basic questions remain to be answered. The purpose of the present series of experiments was to begin the process of answering such questions. For example, is this phenomenon due to competition per se, or to competition specifically with male students. Does competition influence the learning process

itself, the identification of previously learned material, or both? What psychological processes mediate (or cause) the expected decrement in learning (and/or performance) attributable to competitive situations? To answer the first question experimental conditions were established in which female students were placed in direct competition with students of either the same or opposite sex. The second question was examined by varying the nature of the experimental task subjects were asked to perform. In Experiment 1, a paired-associates, verbal learning task was used; in Experiments 2 and 3 a word recognition task was employed. Finally, the experiments were designed to differentiate between two plausible classes of mediating processes: (1) an anxiety process, and (2) a self-presentation process. If competitive situations arouse anxiety, learning and performance will certainly be influenced since it is clear that high levels of arousal from whatever source (e.g., test anxiety, dissonance) affect such behaviors (cf. Taylor & Spence, 1952; Waterman, 1969). However, depending upon the complexity of the task, such arousal will have either a facilitating or a nonfacilitating influence. When the task is relatively difficult (i.e., when the dominant responses are incorrect), learning and performance tend to be worse under arousal conditions. In contrast, when the task is relatively simple (i.e., when the dominant responses are correct), arousal tends to facilitate learning and performance (Spence, Farber, & Mc Fann, 1956; Glucksberg, 1962). Therefore, if competitive situations arouse anxiety, we should expect learning and performance to be retarded only when the tasks are relatively complex. Anxiety-arousing competition should actually enhance learning and performance of relatively simple tasks.

The second possible process to be considered may be described as a kind of self-presentation technique (Goffman, 1959; Jones, 1964). In contrast to an anxiety interpretation, self-presentation interpretation implies that some female students may consciously (and voluntarily) do less well in competitive situations in order to maintain their femininity in the eyes of their competitors. If competitive situations trigger such a dissimulation technique (cf. Komarovsky, 1946), we should expect learning and performance to be retarded under both task-complexity conditions.

Method - Experiment 1
(Competition and Paired-Associates Learning)

General Overview

Experiment 1 was designed to test the effect of competition on learning. The specific questions investigated were (1) whether an anxiety or a dissimulation mechanism is primarily responsible for the influence of competitive situations on learning, and (2) whether the effects of competition differ as a function of the competitors' sex.

The experiment itself consisted of two parts. In the first phase female students participated in a standard paired-associates verbal learning experiment. Two independent variables (Task Complexity and Competitive Situation) were manipulated in a 2 x 3 factorial design. Task complexity was manipulated by using either a relatively simple list (i.e., correct responses are dominant) or a relatively difficult list (i.e., incorrect responses are dominant). The competitive situation was manipulated by having subjects perform the learning task (1) alone (Control or Noncompetitive Condition), (2) in direct competition with three other female students (Female Competitive Condition), or (3) in direct competition with three other male students (Male Competitive Condition).

In the second phase, which followed, on the average, seven days later, subjects completed a battery of personality measures including Horner's (1968) fear of success TAT.

Subjects

The subjects were ninety female summer students at Rider College who signed up to participate in a "Verbal Learning Experiment." Each was paid $3.00 for her participation upon completion of the second session of the experiment.

Procedure[1]

Four subjects were run in each initial experimental session by a male experimenter. In order to use subjects (rather than groups) as the unit of analysis, however, each subject was run individually in a sound proof cubicle. This procedure also eliminated any extraneous, distraction effects

of face-to-face interaction. To implement this procedure it was necessary to tell each group of subjects that each of them would be taking part in a separate experiment. Subjects were then led individually into their respective cubicle.

Each cubicle contained a television monitor over which the instructions, the competitive-situation manipulation, and the stimuli for the verbal learning task were presented by means of videotape. The instructions and the competitive-situation manipulation employed only the audio channel while verbal-learning stimuli were presented visually.

The procedure for the verbal learning task was straightforward. Using the alternate study and recall method, each trial consisted of first presenting the entire list of stimulus-response pairs (two seconds per pair with two seconds between pairs) and then presenting the entire list of stimulus words alone (five seconds per stimuli with two seconds between stimuli). During this response phase of each trial subjects recorded the response words on a blank answer sheet. After each trial subjects placed their answer sheets under their chairs. The stimulus-response pairs as well as the stimulus words alone were randomized across trials.

Manipulation of Task Complexity. Task complexity was manipulated by using two different lists of paired associates. The lists employed were selected on the basis of previous research (cf. Spence, Farber, & Mc Fann, 1956; Waterman, 1969).

Manipulation of the Competitive Situation. The manipulation of the competitive situation occurred immediately after the instructions for the verbal learning task had been completed. In the Alone or Noncompetitive Condition the experimenter proceeded immediately to the learning task. In the two competitive conditions, however, he added the following comment:

> "There are four of you participating in this session, and in order to motivate all of you, I've been instructed to offer an extra $1.50 to the person who does the best.[2] After the test is over, we will all get together and meet each other, and the winner will be announced. Now I'd like to make sure that all of you heard me. When I call your number, please

say 'yes' if you heard me, or 'no' if you didn't into the microphone in front of you."

In the Female Competitive Condition the experimenter continued by asking for a response from a Miss 1, a Miss 2, a Miss 3, and a Miss 4. (Each of the participating subjects believed they were Miss 4.) In this condition, then, each subject heard three female voices answer "yes." In the Male Competitive Condition the experimenter elicited a response, in turn, from a Mr. 1, a Mr. 2, a Mr. 3, and a Miss 4. In this condition, then, subjects heard three male voices reply "yes."

Dependent Measures

Mood Scale. Immediately after the verbal learning task subjects were asked to indicate how they felt during the task on a mood-adjective checklist (Nowlis, 1965). Both positive and negative affects were included. In addition, the word, "competitive," was included to provide a partial check on the competition-condition manipulation.

Personality Measures. At the end of the initial session subjects were rescheduled to return for a second session. In this second session, which was administered by a different male experimenter blind to experimental condition, subjects completed a battery of personality measures, including a measure of fear of success (Horner, 1968); masculinity-femininity (Eagly, 1969); and dissimulation (Komarovsky, 1946).

At the end of this last session, subjects were debriefed and paid.

Results - Experiment 1

Feelings of Competitiveness. Eighty-seven percent of the subjects in the Competitive Conditions indicated that they felt some amount of competitiveness whereas only 62% of the subjects in the Alone did so ($z = 2.71$; $p < .01$). Thus, the manipulation of competitiveness appears to have been successful, although it should be noted that the base rate in the Alone Conditions was already quite high.

Mood State. Analysis of variance did not indicate any significant difference on any of the mood dimensions, although their was a trend for subjects in the easy conditions to report that positive moods (e.g., elation, social affiliation) characterized their feelings to a greater extent than subjects in the hard conditions ($F = 2.65$; $df = 1,84$; $p < .15$).

Learning Performance. The main results are expressed in terms of the mean number trials (out of 11) in which subjects got all responses correct.[3] Therefore, the higher the mean, the better the performance. The results for all subjects are presented in Table 1.

Table 1

Mean Number of Trials with All Responses Correct; All Subjects

Task Difficulty	Competitive Condition		
	Alone	Female	Male
Easy	7.40 (15)	7.94 (16)	8.47 (17)
Hard	7.15 (13)	7.07 (15)	7.07 (14)

Note.--Cell n's are in parentheses.

Analysis of variance of these results indicated that only the main effect for task difficulty was significant ($F = 7.93$; $df = 1,84$; $p < .01$), indicating that subjects

performed better when the task was less difficult.

Learning Performance and Fear of Success. More interesting are the results when subjects are separated into high or low fear of success. Overall 35 subjects (or 39%) wrote fear of success stories to Horner's TAT verbal cue. Unfortunately, however, the distribution of these subjects across experimental conditions was not equal. Whereas at least 50% of the subjects were classified as high fear of success in four conditions, only two subjects in each Female Competitive condition were thus classified.[4] The results, then, for the low fear of success students are presented in Table 2.

Table 2

Mean Number of Trials with All Responses Correct;
Low Fear of Success Subjects

Task Difficulty	Competitive Condition		
	Alone	Female	Male
Easy	7.44 (9)	8.00 (14)	9.14 (7)
Hard	7.17 (6)	7.38 (13)	6.57 (7)

Note.--Cell n's are in parentheses.

Analysis of variance of these results indicated two significant effects. Again the easy task was less difficult overall than the hard task ($F = 9.72$; $df = 1,50$; $p < .01$). In addition, the interaction between task difficulty and competitive situation was significant ($F = 3.73$; $df = 2,50$; $p < .05$). Planned comparisons indicated that low fear of success females performed better on the easy task when they competed with men (Alone vs. Male Competitive; $t = 2.56$; $df = 50$; $p < .02$; and Female Competitive vs. Male Competitive; $t = 1.88$; $df = 50$; $p < .10$). Performance on the hard task tended to be worse for these females with male competition, though this trend was not significant for either comparison.

The correlations between fear of success and performance in the four conditions, where such a correlation was meaningful, indicated that fear of success did make a difference, but only in the Male Competitive conditions. In the Alone conditions there was virtually no relationship between fear of success and performance (r = -.03 in the Alone-Easy condition; r = -.01 in the Alone-Hard condition). When subjects were competing with men, however, high fear of success women performed worse when the task was easy (r = -.44; df = 15; $p < .10$) while they tended to perform better when the task was hard (r = .43; df = 12; $p < .11$). The difference between these correlations was highly reliable (z = 2.32; $p < .02$). The results in terms of mean performance are presented in Table 3.

Table 3

Mean Number of Trials with All Responses Correct; Male Competitive Conditions

Task Difficulty	Fear of Success	
	Low	High
Easy	9.14 (7)	8.00 (10)
Hard	6.57 (7)	7.57 (7)

Note.--Cell n's are in parentheses.

Analysis of variance indicated the usual task-difficulty, main effect (F = 11.98; df = 1,27; $p < .01$) and a significant interaction between task difficulty and fear of success (F = 6.12; df = 1,27; $p < .05$). As indicated by the correlational analysis high fear of success females tend to do worse when the task was easy (t = 1.97; df = 27; $p < .10$) and better when the task was hard (t = 1.56; df = 27; $p < .11$).

This pattern of results is the exact opposite of that predicted by the anxiety interpretation of fear of success.

Learning Performance and Other Personality Measures. Following Komarovsky (1946) each subject was asked how often

they had dissimulated in the past in a variety of situations (e.g., How often have you pretended to be intellectually inferior while on a date?) Only for the Easy-Female Competitive condition did the index tend to relate to learning. In this case those who reported more dissimulation performed less well ($r = -.49$, $df = 14$; $p < .06$). In the other conditions the correlations were all unreliable. In the Easy-Male Competitive condition the correlation was virtually zero ($r = -.03$); in the Hard-Male Competitive condition the correlation was .25.

A projective measure of dissimulation was also employed (see Appendix A). An index formed by summing responses to this measure also failed to relate to learning performance in any of the experimental conditions (largest $r = .32$ in the Easy-Alone condition).

A traditional measure of masculinity-femininity was also taken in the second session (cf. Eagly, 1969). This measure also failed to correlate with learning performance (largest $r = -.17$ in the Hard-Female Competitiveness condition).

It may be of interest to note that Horner's measure of fear of success did not relate to the traditional masculinity-femininity measure ($r = .09$) while it did have a modest, positive relationship with the direct index of dissimulation ($r = .35$; $df = 88$; $p < .01$). Thus, high fear of success females did tend to report more dissimulation than low fear of success women.

The results of this experiment suggest (1) that competition per se does not appear to be the crucial determinant for the fear of success effect (cf. Makosky, 1972), (2) that competition with males does appear to affect fear of success women, and (3) that the effect of male competition on fear of success women appears to be the exact opposite of that predicted. Perhaps high fear of success women consciously sabotage their performance when they compete with males, especially when it is clear they very well might succeed in the competition. This might have been the case when the task was relatively easy. Since high fear of success women may not be motivated to succeed they may experience less anxiety when the task itself is difficult. This notion suggests that they tend to do better than low fear of success women on the more difficult task only because the low fear

of success women experience more anxiety associated with trying to win the competition. At any rate, the results of the first experiment do not conform to the pattern of results predicted by either the "anxiety" or "dissimulation" hypotheses. The next experiment attempted to test the same sort of hypotheses by employing a different sort of task.

Method - Experiment 2
(Competition and Recognition Performance: Between-Subject Design)

General Overview

Experiment 2 was designed to test the effect of competition on performance. Using a procedure similar to that of Experiment 1 two variables were manipulated in a 2 x 2 factorial design: task complexity (easy vs. hard) and competitive situation (alone vs. competition with men). The major dependent variable was the mean visual duration threshold for recognition of a list of words presented to the subject. Other dependent variables included self-reported mood. For internal analyses, measurement of several personality variables were added, including the TAT response to the cue on Anne's success in medical school.

Subjects

The subjects were sixty-six female undergraduates at Rider College who signed up to participate in a "Perceptual Experiment." Each subject was paid $1.50 for her participation.

Materials Used

The wordlists were presented with a Gerbrands tachistoscope. Only one field was used; the other field was covered with a blank sheet of paper. The illumination was held constant. The words were initially flashed at 10 milliseconds, and increased by 10 milliseconds each time the subject made an incorrect response. This process was continued until the subject could correctly identify the word. Criterion for a correct response was one verbal reading of the word correctly. The final score for each subject was the mean visual duration threshold in milliseconds for all twelve words. The wordlists employed were selected on the basis of past research (cf. Glucksberg, 1962). The words were typed in capital letters on heavy paper cards.

Procedure

Subjects were run individually by a female experimenter. When the subject reported to the experiment, she was asked to sit down in front of the tachistoscope and to read a page of written instructions. These instructions indicated that

the experiment was "a test of perceptual recognition," explained the procedure and the use of the tachistoscope, and emphasized that subjects should "try to report the words as soon as you can - wrong guesses will not be counted." After subjects read these instructions, the experimenter answered any questions concerning the procedure.

Manipulation of the Competitive Situation. The manipulation of the competitive situation occurred immediately after the instructions for the verbal learning task had been completed. In the Alone condition the experimenter simply proceeded immediately to the word recognition task. In the Male Competitive conditions, however, she added the following comment:

> "Now, there are three other people in this time slot taking this test, in other rooms, and we're offering $3 to the one of the four of you who does the best job. Afterwards, we'll all meet and see who the winner is. Let me just read you the names of the other people to see if you know any of them: Peter Sheras, Charles Batson, Gregory Johnson. No? O.K. Let's begin."

Dependent Measures

The major dependent measure was the subject's word recognition score--the mean visual duration threshold. After the word recognition task, subjects were asked to complete several questionnaires. First, they completed a mood-adjective checklist (Nowlis, 1965), according to how they felt during the task. The moods that were tapped included feelings of competitiveness and several measures of anxiety. Subjects were also asked to indicate on a 7-point scale how important it was to her to do well on the task. Two personality measures were also included: Horner's (1968) fear of success measure, and Komarovsky's (1946) dissimulation measure.

Results - Experiment 2

Feelings of Competitiveness and Anxiety. Analysis of variance indicated that subjects did not report differential feelings of competitiveness as a function of either manipulation. Subjects did, however, report being more anxious (e.g., jittery, fearful, clutched up) when task was hard than when it was easy ($F = 4.83$; $df = 1,58$; $p < .05$).

Recognition Performance and Fear of Success. Horner's TAT stories were scored according to her criteria by the experimenter who was blind to condition, and subjects were divided into two groups: high fear of success and low fear of success. Table 4 shows the mean recognition scores for both the high and low fear of success subjects by condition.

Table 4

Mean Visual Duration Threshold in Milliseconds

Task Difficulty	High Fear of Success Subjects		Low Fear of Success Subjects	
	Alone	Male Competition	Alone	Male Competition
Easy	44.58 (4)	46.67 (3)	50.53 (11)	54.28 (15)
Hard	100.83 (4)	101.25 (2)	130.00 (12)	129.61 (15)

Note.--Cell n's are in parentheses.

The first thing to note about Table 4 is the low proportion of subjects scored as high fear of success (13 of 66 or 20%). We will have more to say about this later. Analysis of variance of these results indicated that only the main effect for task difficulty was significant ($F = 21.06$; $df = 1,58$; $p < .001$). Not surprisingly subjects recognized easier words sooner than more difficult words.

The analysis of variance for subjects reports of how important it was for them to do well on the task did support one of Horner's (1970) hypotheses. She suggested that high

fear of success subjects would tend to feel it was more important to do well in a noncompetitive situation whereas low fear of success subjects would feel it was more important to excel in a competitive situation. The pattern of results indicated that this was the case and the interaction between fear of success and competitive condition was significant ($F = 6.19$; $df = 1,58$; $p < .02$).

Recognition Performance and Dissimulation. Komarovsky's (1946) measure of dissimulation again failed to relate to performance.

The major problem with the second experiment was that there was a much smaller percentage of subjects giving fear of success responses to the Anne TAT than had been reported in the literature. There are several possible explanations for this finding. One possibility is that a female rather than a male experimenter administered the cue. With this in mind a male experimenter administered the cue to 24 additional female students at Rider College. Eleven girls (or 46% of the sample) wrote stories which indicated fear of success. Since this proportion of high fear of success respondents was more similar to that reported in the literature, an attempt was made to replicate Experiment 2, this time employing a within-subject design.

Method - Experiment 3
(Competition and Recognition Performance: With-Subject Design)

General Overview

Experiment 3 consisted of a 2 x 2 x 2 x 2 x 2 factorial design. Two within-subject variables were competition condition (alone vs. competition with males) and task difficulty (easy vs. hard). Three between-subject variables were fear of success, condition order, and list order. Fear of success was again measured by the Anne TAT. Condition order refers to the order of the competitive conditions in which the subjects performed the word recognition tasks. Half the subjects did the task in the alone condition first and the competition condition second, half had the competition condition first followed by the alone condition. List order refers to the order of the wordlists used. In order for the subjects to perform both the easy and the hard tasks, under both competitive conditions, two new wordlists were constructed from the original easy and hard word lists (see Experiment 2). List 1 contained five easy and five hard words as did List 2. Words were randomly assigned to each list. Thus, some subjects were in the alone-competition condition, or the competition-alone condition, with either list 1, then list 2, or list 2, then list 1.

The major dependent variable was again the mean visual duration threshold in milliseconds.

Subjects

Subjects were 20 Rider College female undergraduates who had previously participated in a questionnaire session during which they were asked to respond to the Anne TAT. Half of these students were judged high in fear of success; half low in fear of success following the standard criteria. Each subject was paid $1.50 for her participation. Two subjects who were run through the experiment were disqualified because they did not believe the deception, leaving a total of eighteen subjects.

Materials Used

The same tachistoscope and the same stimulus cards employed in Experiment 2 were used, although new wordlists were constructed (as described above).

Procedure

Subjects reported to a room in the Science Building at Rider College. They were greeted by a female experimenter and asked to sit down in front of the tachistoscope.

Alone-Competition Condition. In this condition the experimenter explained:

In this experiment we're going to be having several people perform various tasks during each time period. Some people will be doing tasks in common with other people, and some people will be randomly selected to try out a new one for us, by themselves.... Now, let's see. For the first task, you have been selected to try out a new one, with new words that we have never used before, while the others are filling out a questionnaire....

The subjects then proceeded to the word recognition task. After she finished the task, the experimenter continued:

Now, for the next task everyone is going to do the same task, but in different rooms. And we're offering three dollars to the one of you who does the best job. It will be a perceptual test again, but with different words which we've used before.... Now, let's see if you know any of the other people taking the test. Peter Sheras, Charles Batson, Gregory Johnson. No? O.K. Afterwards we'll all get together and see who the winner is.

After the experimenter finished, a male confederate entered the room, and said, "I was told to tell you that we're ready to take the test--the guy wanted to know if you're ready." The experimenter replied they were ready and excused the confederate. The male confederate was introduced in the procedure to increase the credibility and the saliency of the male competition condition. The subject then performed the second word recognition task, after which she filled out a post experimental questionnaire, was debriefed, and finally paid.

Competition-Alone Condition. The procedure in this condition was identical to that described above except that the instructions surrounding the two recognition tasks were in the reverse order. That is, the subject took the first perceptual test thinking that there were other males participating and competing for a cash prize, and the second test assuming that she was the only one taking it at the time.

Results - Experiment 3

The main results are presented in Table 5. A five-way analysis of variance performed on these data indicated that

Table 5

Mean Visual Duration Threshold in Milliseconds

Task Difficulty	High Fear of Success Subjects		Low Fear of Success Subjects	
	Alone	Male Competition	Alone	Male Competition
Easy	56.58	56.33	47.25	46.00
Hard	128.67	133.42	123.88	126.50

Note.--N equals 9 for both High and Low Fear of Success subjects.

only two main effects attained significance: task difficulty (F = 106.70; df = 1,10; $p < .001$), and condition order (F = 9.92; df = 1,10; $p < .02$). Subjects did better on the easy tasks than on the hard ones and performed better in whatever condition came second, the first task providing practice, in a sense. Neither the main effect for fear of success nor the interaction between fear of success, task difficulty, and competition attained significance ($F < 1$, in each case). Thus, once again the results failed to replicate the "competition effect" obtained by Horner on either the easy or the difficult tasks.

In their failure to replicate Horner's findings Experiment 2 and 3 have highlighted some variables which need further experimentation. For example, it may be that face-to-face competition is necessary to elicit truly competitive feelings. Another possibility is that in order for fear of success to be aroused, the competitors might have to be persons that the subjects know, and with whom they frequently interact. Another variable which warrants further investigation is the nature of the task itself. Many tasks are sex-typed; that is, people think the one sex or the other

would be better at it. Most people find, from their own experience, that females do better at verbal tasks and males do better at mathematical or analytical tasks. For example, most students who take SAT's find this reflected in the pattern of their verbal and math scores. It seems possible then that females would not experience motivation to avoid success when the task involved is a neutral or feminine one, rather than a masculine one. A female who is superior at a stereotypically feminine task is not going to think she is unfeminine or abnormal, nor will others perceive her that way. In order to find out what subjects thought about the word recognition task, a questionnaire on the task was given to each subject at the end of the experiment. The results lend support to the proposed rationale: 55% of the subjects thought men and women would do the same on the task, 35% thought women would do better, and 10% thought men would do better. The task, therefore, appears to have been perceived as neutral or feminine.

So far we have discussed fear of success as an anxiety construct. The notion that some women may consciously and voluntarily sabotage their performance, however, has also been entertained. The next study was a preliminary attempt to examine the notion of dissimulation as a self-presentational technique more closely.

Method - Experiment 4
(Validation of a Dissimulation Questionnaire)

General Overview

Pairs of female undergraduate students were asked to nominate one female acquaintance whom they both considered to be a dissimulator and another acquaintance whom they felt to be a nondissimulator. Those students who were nominated were then contacted and asked to complete a battery of questionnaires which included a direct and an indirect measure of dissimulation as well as Horner's (1968) TAT cue.

Subjects

Eighty Princeton female undergraduates participated in the study: 40 in the nominating phase; 40 in the validating phase. Twenty (10 sophomore and 10 freshmen) students were called at random, and asked to select, on their own, another girl from their class "who, by and large, knows most of the same people you do." These students, in pairs, each nominated two additional girls from their class who participated in the validating phase of the experiment. Each of these latter girls was called and asked to participate in an opinion survey conducted by the Psychology Department. Each of the 80 students was paid $1.50 for their participation.

Procedure

Nomination Phase. The experimenter, a female Princeton undergraduate, conducted the nominating phase of the experiment in the dormitory rooms of the girls she had initially called. She began by stating that "some female college students have been known to consciously and voluntarily present themselves as being less intelligent and less competent than they really are" and that she was "trying to learn if this practice is evident, and if it is, under what conditions and to what extent at Princeton." She then asked the two nominators to agree upon a Princeton coed who "displays this tendency the most." She also asked them to select a second girl, "one who displays these traits the least or not at all. That is, one who doesn't 'play dumb,' do poorly on purpose, or detract from herself to build up a male ego."

Nominators were then informed that the girls they named would not be informed as to how and why they were chosen for study and that once the data was collected, the subjects would be referred to by number only.

After nominators agreed to have their discussions taped, they commenced to decide collectively on the girls they would nominate for each category.

Validation Phase. Nominees were contacted by phone and asked to participate in an attitude and personality survey conducted by the psychology department. Subjects were run individually and were simply asked to complete a battery of questionnaires. Included in this battery were direct measures of dissimulation (see Appendix B), indirect measures of dissimulation (see Appendix A), Horner's (1968) TAT cue, and Eagly's (1969) measure of masculinity-femininity.

When subjects completed the questionnaires the purpose of the experiment was explained, although no mention was made that they had been nominated by friends.

Results - Experiment 4

Dissimulators vs. Nondissimulators. Only one question differentiated the two groups of nominees. This question asked "How often have you been advised to act more 'feminine'?" Nondissimulators indicated that they had been so advised to a greater extent than their dissimulating counterparts ($t = 2.68$; $df = 19$; $p < .02$). Of the 17 pairs of nominees where a difference occurred 14 showed a difference in this direction ($p < .01$, by sign test). Who gave this advice to the nondissimulators? Apparently this advice has come from other females rather than from males. Sixty percent of the nondissimulators reported their mothers had given them this sort of advice. For dissimulators the analogous percentage was only 25% ($z = 2.29$; $p < .03$). More nondissimulators than dissimulators also indicated that female friends had told them to act more feminine (respective percentages of 35% and 5%; $z = 2.58$; $p < .01$).

Nominator Discussions. A preliminary and suggestive analysis of the taped discussions was performed in order to discover how the girls themselves perceived the postulated phenomenon of dissimulation. What follows then is our impression of what the girls said.

The general consensus of the girls interviewed was that 'playing dumb' is a negative type of behavior. Though a few of the dissimulators were described as "just being like that," most were described as acting one way around girls while "putting it on" around guys. There was not a general consensus concerning the number of girls who exhibit this type of behavior; some girls felt "everybody does it sometimes" others felt some girls (usually themselves) never show this type of behavior.

Everyone did agree that this type of behavior was much more prevalent at their high schools than at Princeton. Some of the typical reasons for this included: "Princeton women are intelligent and liberated"; "It's uncool to be feminine around here"; and "In high school you are not expected to do well--here all the girls are expected to be smart." Princeton coeds do seem to imply that the social situation, including relevant female models is an important determinant of dissimulating behavior.

Three major circumstances were frequently mentioned as causes of "put on" behavior. About half of the girls

suggested that feelings of insecurity was one such determinant. "When you're not at ease or are unsure of yourself, then you fall back to stereotyped behavior." This, essentially, self-preservation type of behavior can obviously apply to both sexes. Specifically mentioned in this category, however, was the fact that this type of insecurity often results in the beginning of a relationship with a guy.

A second determinant that was often mentioned was that of male expectations. One girl was explicit, "When surrounded by men...I receive a message from them--here's your role, act it out." A third frequently-mentioned cause was that of building up or being careful not to hurt a male's ego. One girl related the problem she had had after beating a male at tennis.

Two basic types of dissimulation were also mentioned. Besides actively "playing dumb," girls described a more passive kind of dissimulation. This kind of behavior includes hiding the fact or simply ignoring or avoiding the areas where one might outshine a male friend.

This preliminary analyses suggests that women are indeed aware of dissimulation, that most can begin to specify the conditions where they think it occurs, and that most are aware of the subtle forms such dissimulation may take. The failure of the validating phase to differentiate dissimulators from nondissimulators may be due to several reasons: (1) the nominators did a bad job of selecting the girls, (2) the questionnaires did not tap the proper dimensions which distinguishes the two types of girls, or (3) social desirability pressures prevented girls from being honest in their responses. Future research is needed to untangle these and other alternatives. It should be noted, however, that individual-difference determinants of dissimulation may be quite small compared to the kinds of situational determinants discussed by the nominators. The strategy of determining situational determinants of dissimulation on dimensions other than task performance is one direction currently under attack.

So far fear of success effects have proved difficult to produce in the laboratory. It was, therefore, decided to see if differences could be found in the behavior of students in a highly competitive academic environment. It also seemed important at this stage of the research to include male students in sample. Happily, an instrument designed to tap fear of success in both male and female was recently developed (Pappo, 1972).

Method - Experiment 5
(Fear of Success in a Law School Sample)

General Overview

Although Horner's TAT method demonstrated greater fear of success (FOS) among the women sampled, it seems reasonable to suppose that men are also often afraid of the successes which they might achieve and that such fears may be reflected in their behaviors as well, if the appropriate responses are examined. Horner herself has suggested that "in order to accurately assess the presence of a certain motive we should be more careful to use cues that are relevant and meaningful to the subjects in light of this specific abilities, competence, and potential" (1970).

Pappo (1972) has recently constructed an instrument which purports to measure anxiety related to FOS in academic situations and has found that FOS was as common among males as among females. Her instrument tapped five characteristics: self-doubt, preoccupation with competition, preoccupation with evaluation, repudiation of competence, and self-sabotage behavior. Undergraduate students found to be high in FOS, regardless of sex, significantly lowered their performances on a digit-symbol task after being told they had been successful on a previous task. In contrast, students low in FOS significantly improved their performances after the "success" experience.

In order to explore the possibility that the effects of FOS (1) are not unique to women and (2) exist in a highly competitive real-world situation, a field study was conducted at a major eastern law school. Of major interest were the sex and FOS effects in terms of students' (a) background, (b) law school experience, and (c) future job aspirations.

Subjects

Each first-year female student was called and asked to participate in an attitude survey concerning law school. Four females declined to participate, leaving an n of 24. Every sixth first-year male listed in the law school directory was also called and asked to participate. Two males declined, leaving an n of 30. Each student was paid $1.50 for their participation.

Procedure

The subjects were given the experimental questionnaire during the lunch hour of five successive weekdays. Males were asked to arrive at one room; females at another. Students thus responded to the questionnaire in a room with only like-sexed students present. The questionnaire was distributed by a male or female "experimenter" who were assigned randomly to the male or female room.

The questionnaire consisted of two parts: (1) Pappo's FOS instrument entitled "Self Awareness Questionnaire," and (2) a section stating that it was "designed to obtain background information, future career plans, and general opinions of the law school's students." Specific questions on the second part of the questionnaire will be discussed subsequently in the results section.

Results - Experiment 5

Experimenter Effects. A preliminary analysis indicated that the sex of the experimenter made virtually no difference on any of the dependent variables, and so the results will be presented collasped across this variable.

Fear of Success. A preliminary analysis also indicated that the male and female students did not differ in terms of FOS. Therefore, subjects above the overall median for the sample became the high FOS group; those below this cutting point became the low FOS group.

Background Characteristics. The background characteristics that were examined included parents' occupational prestige and education as well as students' past and present identification with their parents. Analysis of variance of these variables indicated several significant main effects for sex; neither the main effect for FOS nor the interaction between the two variables attained significance. For example, parents of female students had more education than parents of male students ($p < .01$ for fathers; $p < .03$ for mothers). Parents of female students also had occupations of higher prestige, although this difference was significant only for mothers' occupational prestige ($p < .05$). In terms of past and present identification with their parents (e.g., how close [did/do] you feel to your [father or mother] [during high school/now] ?), females, not unreasonably, reported being more closely identified with their mothers ($p < .01$ in the past; $p < .03$ in the present). No differences attained significance when identification with fathers was at issue.

Law School Experience. The major questions related to law school experience are presented in Table 6.

Table 6

Law School Experience

Dependent Variable	High FOS		Low FOS	
	Male	Female	Male	Female
Times Volunteered Answers in Class	5.31	3.25	4.79	3.08
% who Desired to Volunteer, But Didn't	81%	83%	57%	50%
Times Desired, But Didn't	4.69	4.92	2.57	1.67
% More Likely to Tell Male Classmates they Received an A rather than a C	69%	17%	75%	42%
% More Likely to Tell Female Classmates they Received an A rather than a C	69%	33%	67%	42%
Law Board Scores	647	637	690	670
Grades (1st semester)[a]	3.01	3.52	3.43	3.25
Grades Expected (2nd semester)[a]	3.53	3.40	3.50	3.60
Grades Studied to Achieve[a]	4.50	4.00	4.43	3.89
Satisfaction with Decision to go to Law School[b]	5.00	5.50	5.64	6.17
Cell n's	(16)	(12)	(14)	(12)

[a] 2 = pass; 3 = "C"; 4 = "B"; 5 = "A"

[b] Ratings made on a 7-point scale with higher numbers indicating greater satisfaction.

Here it can be seen that sex and FOS made a difference, never, however, on the same variable. In addition, the interaction between these independent variables did not approach significance on any of the dependent measures.

First, let us consider the sex effects. In class (where instructors, most typically, call on students by name) females were less likely to volunteer answers ($p < .01$). Females were also less likely to tell male and female classmates that they had received an "A" in contrast to telling them

they had received an "C" in a course ($p < .01$ for male classmates; $p < .05$ for female classmates). Finally, females reported that they studied in order to achieve lower grades in law school ($p < .08$).

Second, let us consider the FOS effects. In class, high FOS students, regardless of sex, were more likely to have had the experience of wanting to volunteer an answer, but not doing so ($p < .05$). High FOS students actually reported this experience had occurred to them more often than did low FOS students ($p < .001$). High FOS students also performed worse on their law boards ($p < .05$), although the grades they received first semester and the grades they expected to receive did not differ. Finally, high FOS students reported being less satisfied with their decision to go to law school ($p < .07$).

Future Job Aspirations. Subjects were also asked to indicate the likelihood they would decide to pursue certain job alternatives. A pilot study, which employed ten third year law students, had provided evidence that seven of the job alternatives traditionally were considered to be "women's" work (e.g., legal aid work) while seven were considered to be "men's" work (e.g., corporation work at a Wall Street law firm). The results indicated that females were more likely to choose "women's" work over "men's" work while the opposite was true for males ($p < .05$).

The lack of interactions between FOS and sex indicated that there were no behaviors examined in this study particular to the women in the sample who scored high in FOS. Thus, the concept, as formulated by Horner (1968), does not appear to provide a sufficient explanation for the fear of success effects found in this present study--since such effects held for both sexes. Fear of social rejection due to one's successes, however, may account for the sex differences obtained. In future research it will be necessary to delinate further the situations in which FOS and sex are independent, and the situations in which their effects are interactive. That FOS affected aptitude test scores (i.e., law boards) but not grades also suggests that in future research in this area it will be necessary to differentiate persons who fear negative consequences resulting from actually succeeding and persons who fear consequences related to the dishonor of raising their expectations, trying, and failing.[5]

The final experiment in the present series attempted to explore the content and the evaluation of sex-role stereotypes of relatively successful women. The question for research in this last experiment was whether successful women would be evaluated positively or negatively.

Method - Experiment 6
(Sex-Role Stereotypes of "Elite" Women)

General Overview

Numerous studies attest to the fact that sex-role stereotypes do exist (cf. Broverman, et al., 1972). Recently, for example, Jenkin and Vroegh (1969) asked middle class Americans to use adjective check-lists and semantic differentials to describe the most and least masculine and feminine persons. Both sexes generally agreed on the nature of masculinity and femininity. When subjects were asked to describe the most masculine person they could imagine, the person was active, alert, capable, self-confident, independent, mature, adventurous, aggressive, ambitious, courageous, dependable, energetic, intelligent, having wide interests, rational, responsible, and strong. On the other hand, the most feminine person was not surprisingly described as affectionate, attractive, charming, emotional, gentle, warm, and graceful. None of the traits assigned to the feminine person were intellectual in nature. Not only are the stereotypes of men different from those of women, but men are also evaluated more positively than women (cf. Lunneburg, 1970). What about highly talented women at a prestigious eastern university?

Experiment 6 was designed to investigate the sex-role stereotypes which males at an Ivy League institution held toward various groups of male and female college students. Specifically, we were interested in what stereotypes such men held toward (1) females at such an institution, (2) females at less competitive colleges, (3) males at such an institution, and (4) males at less competitive colleges. In addition, the study was designed to tap the evaluation of the stereotyped characteristics.

The working hypothesis of the present study was that there would be distinct stereotypes of men and of women as well as distinct stereotypes of "elite" men and women. While it was thought that such "elite" men and women would be characterized similarly, it was also expected that the male subjects would evaluate both groups of women negatively. The average college women would be thought of negatively because of their lack of traditional masculine traits (e.g., intelligence) while the "elite" college women would be thought of negatively because of their possession of these

very same masculine traits (e.g., ambition, aggressiveness, and industriousness). If these hypotheses turn out to be supported, then we will have evidence which would support the notion that success for women, although recognized, leads to negative consequences.

Subjects

Eighty Princeton male undergraduates took part in the study. Each was paid $1.50 for his participation.

Procedure

All subjects were given a questionnaire which asked them to indicate their perceptions of a particular group of students on several 11-point bipolar scales. In a 2 x 2 factorial design four target groups were rated, each by twenty subjects: (1) Princeton male undergraduates, (2) Princeton female undergraduates, (3) average college male undergraduates (non-Ivy League), and (4) average college female undergraduates (non-Ivy League, non-Seven Sister).

The individual bipolar traits were designed to tap, a priori, two underlying personality dimensions (cf. Rosenberg, et al., 1968): (1) intellectual desirability (e.g., intelligent-unintelligent), and (2) social desirability (e.g., warm-cold). In addition, several scales were designed to measure traditional sex-role stereotypes (cf. Broverman, et al., 1972) not tapped by the previous dimensions (e.g., active-passive).

After rating their target groups all subjects were asked open-ended questions which attempted to discover how Princeton men evaluated Princeton women.

Results - Experiment 6

Traditional Stereotypes

The mean perceived traditional stereotypes are presented in Table 7. We have defined traditional stereotypes simply as those trait dimensions on which males and females have been perceived to differ (cf. Broverman et al., 1972).

Table 7

Mean Perceived Traditional Stereotype

School	Sex	
	Male	Female
Princeton	54.45	52.80
Average College	47.25	40.05

Note.--Scores range from 7 (traditionally feminine) to 77 (traditionally masculine). N is equal to 20 per condition.

Analysis of variance indicated that Princeton students, (both male and female) are perceived to be more traditionally masculine than the average college student ($F = 38.95$; $df = 1,76$; $p < .001$). In addition, this analysis indicated that male students were judged to be more masculine than female students ($F = 7.67$; $df = 1,76$; $p < .01$). This last finding, however, is qualified by the fact that Sex and School tended to interact ($F = 3.01$; $df = 1,76$; $p < .10$). Whereas average college males were perceived to be more masculine than average college females (means of 47.25 vs. 40.05; $t = 3.19$; $p < .001$), Princeton males were not perceived to be more masculine than Princeton females (means of 54.45 vs. 52.80; $t < 1$).

Intellectual Desirability

Mean perceived intellectual desirability is presented in Table 8.

Table 8

Mean Perceived Intellectual Desirability

School	Sex	
	Male	Female
Princeton	37.55	40.80
Average College	33.55	31.80

Note.--Scores range from 5 (intellectually undesirable) to 55 (intellectually desirable).

Analysis of variance indicated that Princeton students (both male and female) are perceived to possess intellectually desirable traits to a greater degree than students from average colleges ($F = 21.19$; $df = 1,76$; $p < .001$). The interaction between School and Sex also approached significance ($F = 3.14$; $df = 1,76$; $p < .10$) and indicated that the school effect was stronger for females ($t = 4.50$; $df = 76$; $p < .001$) than it was for males ($t = 2.00$; $df = 76$; $p < .05$). In fact, Princeton females were perceived to possess intellectually desirable traits to a greater extent than Princeton males, though this comparison was only marginally significant ($t = 1.63$; $df = 76$; $p < .11$).

Social Desirability

Mean perceived social desirability is presented in Table 9.

Table 9

Mean Perceived Social Desirability

School	Sex	
	Male	Female
Princeton	31.00	32.10
Average College	37.70	34.90

Note.--Scores ranged from 5 (socially undesirable) to 55 (socially desirable).

Analysis of variance indicated that only the main effect for Schools attained significance ($F = 10.89$; $df = 76$; $p < .01$). In this case, Princeton students (both male and female) were perceived to possess socially desirable traits to a lesser extent than students from average colleges.

Summarizing the results thus far, Princeton coeds are perceived to be less socially desirable, more intellectually desirable, and less traditionally feminine than average college females. Princeton women, therefore, do appear to Princeton men to be different from other college women. If we compare Princeton women to Princeton men, however, we find essentually no differences, except that Princeton women are perceived to be slightly more desirable on the intellectual dimension ($p < .11$).

General Evaluation

So far we have presented trait inference data. This data suggested (1) that sex-role stereotypes continue to be held by Princeton males, and (2) that there is a very distinct stereotype of Princeton females, which on the surface, at least, is very similar to that of Princeton males. How, then, are Princeton women really evaluated? Open-ended questions attempted to tap this dimension. Some typical comments made in response to a question which asked subjects to describe Princeton women follow:

"Coeds are unattractive, smart, aggressive, insecure, basically unhappy, overly studious, inept socially, and unstable." "Coeds are physically a little heavy, more often below average in facial attractiveness than not and one who is constantly conscious of her intellectual image (and is relentless in preserving this image. Most coeds are grinds)." "I think the average Princeton male tolerates rather than accepts Princeton coeds...I believe that many males are somewhat apprehensive about the intellectual faculties of some of the women here."

Thus although Princeton females were considered extremely intelligent (and were rated highest on the intellectual desirability dimension), their intelligence is not always counted in their favor. Several subjects expressed the sentiment that coeds are "too" intelligent. Traits that are positive when possessed by males do, then, appear to be evaluated negatively when possessed by females. The data suggests that when a group of women are perceived to hold traditionally masculine traits (e.g., intelligence), they are evaluated negatively.

Conclusion and Research in Progress

One finding of the present set of experiments stands out: in no experiment were we able to replicate the deterioration effect originally documented by Horner (1968). In Experiment 1 the results suggest that women low in fear of success actually perform better when the task is easy; worse when the task is difficult. In Experiments 2 and 3 neither effects for competition nor fear of success were apparent. Although speculative at this point, it must be concluded that Horner's effect is not as robust as originally assumed. Put another way, more boundary conditions need to be specified in order to predict (and find) deterioration in performance of high fear of success women. Given the comments of subjects in Experiment 3 we feel that an important precondition is that the task to be performed must be perceived to be masculine in nature. Recent evidence suggests this is the case. Makosky (1972) recently manipulated the sex-role orientation of an anagram task with verbal instructions and found decrement in performance when high FOS females, in competition with males, felt the task measured a masculine ability.

The results from these experiments also suggest two other tentative conclusions. First, task performance is only one class of behavior that may be affected when females interact with males. Coeds interviewed in connection with Experiment 4, in fact, appeared to suggest that women were more likely to "dissimulate" by conforming to a male's opinions either overtly or covertly (i.e., by not expressing their opinions at all). Second, Horner's TAT may not be the most sensitive measure of the fear of success concept. In Experiment 5, female law students categorized as low and high in fear of success by this measure did not differ on any of the measures taken. An instrument developed by Pappo (1972), however, was predictive both for men and women, in this study.

In general what do the results of the present investigations suggest for the direction of future research in this area? Although not a direct conclusion, it seems clear that more emphasis should be placed on situational variables rather than on personality variables, presumed unique to women. Such a shifting of emphasis has one extremely important implication. Rather than conceiving of women as inherently inferior (because they may possess some debilitating

personality trait), one can conceive of problems which various classes of situations present to both women and, for that matter, to men. This kind of conceptualization also expands the classes of dependent behaviors that one deems important to investigate. Thus rather than trying to identify certain women who may react negatively in competitive situations, future research ought to look for certain situations that affect behavior in an adverse manner. Such an analysis may have a further benefit. In describing those situations which adversely affect women, one may be also able to specify those situations which adversely affect men.

This new approach will be explicated by discussing the research that is currently in progress. Although three experiments are in progress, a dissertation study being conducted by Karen Glasser is most pertinent. Glasser proposes that self-sabotage performance is part of a larger face-saving phenomenon which involves not excelling (in public) at an opposite-sexed-type task. The emphasis is thus more on the sex-role orientation of the task rather than on the competitive nature of the situation per se.

The importance of attending to the sex-role nature of the task has been highlighted by a recent study by Sistrunk and Mc David (1971). These authors felt that the consistent findings in the conformity literature that females are more conforming than males was due to an artifact of the experimental situation. They suggested that the tasks in past conformity studies were typically masculine ones, or ones with which females had less experience with than did the males. Thus the females' greater conformity was a natural response to lack of knowledge and/or experience in the areas tested. When the authors ran a series of experiments using masculine, feminine, and neutral tasks, they found that the traditional sex difference in conformity disappeared. Each sex conformed more on the opposite-sexed tasks, with which they had less familiarity, and equally on the neutral tasks.

Glasser's experiment will employ a mixed-sex competitive situation with a neutral task which can be given either a masculine or a feminine orientation. The basic prediction is that both sexes will perform less well on an opposite-sexed task, <u>after</u> they are given definite (though false) feedback regarding the success of their performances.

A second study will begin to explore the social comparison processes which male and female students undergo when they receive ambiguous information about their performances in same-sexed or opposite-sexed tasks. Specifically students of both sexes will be given a neutral task to perform. For half of each sex the task will be said to tap masculine abilities; for half feminine abilities. After the task is completed, subjects will be given a score but no norms upon which to interpret what the score means. The question for research is what reference groups will be sought out to make sense out of the ambiguous performance. Females who perform a masculine task are expected to seek out information about how well both other women and men do on the task. Similarly, when men perform a feminine task they are expected to seek out both male and female norms. Thus, males and females are hypothesized to behave similarly. In the same-sex task subjects are predicted to seek out same-sex norms only. The point is that in the "real world" men are rarely forced to take part in traditionally feminine behaviors. Therefore, for practical purposes they have one basic reference group. Career women, in contrast, are often forced to take part in traditionally masculine behaviors when they enter the "real world." Therefore these women have at least two reference groups by which they have to evaluate their performance. One potential problem with this possibility is that the two reference groups may not agree on what is proper behavior. Thus additional conflicts may arise for women. This is not to say that men and women are psychologically different. Instead the present study will attempt to show that when men and women are placed in similar psychological situations, they behave similarly. This study should begin to provide evidence against the notion that men are more independent than women. When they find themselves in an opposite-sexed situation they must consult as many reference groups that women are normally forced to consult.

The third experiment in progress will attempt to look at other behaviors that might be influenced when women interact with men. Specifically, this study will focus on opinion conformity and self-presentation as ingratiation techniques. Female college students will be induced to interact with an attractive or unattractive male student whose ideal women is known to conform to the stereotype of a traditional women or of a women's liberation-type women. When the male is attractive women may be motivated to employ ingratiation tactics. What tactics will they employ? The

prediction is that they may very well be likely to conform to the male's opinions on topics unrelated to sex and, possibly, even present themselves as the kind of women that agrees with the male's ideal woman. Again this study is not intended to demonstrate that women are different from men. In fact, if the results are promising the follow up study would attempt to demonstrate that men would employ similar ingratiation tactics with a women they were motivated to impress. The apparent real world difference between the sexes may be that men may hold more variant views concerning their ideal women than women hold concerning their ideal men. A field study is planned to assess this possibility.

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Footnotes

1. The basic procedure was pilot-tested with thirty-two Princeton, female undergraduates in order to assure the plausibility of the manipulations.

2. The subject who, in fact, performed the best within each group was given an extra $1.50. This practice was not continued, however, in Experiments 2 and 3.

3. This measure correlates highly with the number of trials it took subjects to learn this list. When the criteria was simply the first trial with all correct the correlation was -.95; when the criteria was two consecutive trials with all correct, $\underline{r}$ = -.96.

4. Two judges, blind to condition, scored the TAT protocols according to Horner's criterion.

5. A version of this experiment will be reported at the Eastern Psychological Association, April, 1973.

Appendix A

Indirect Measure of Dissimulation

Instructions

On the following pages, you will find a series of situations that are likely to occur in everyday life. The central person in each situation is faced with a decision.

For each situation, you will be asked to imagine that you are advising the central person. Your task will be to recommend, what you consider to be, the best decision.

Read each situation carefully before giving your judgment. Try to place yourself in the position of the central person in each of the situations. Please do not omit any of them.

1. Jane and her boyfriend, John, are taking the same seminar in economics. One day, during a student-led discussion, John mentioned something which Jane knows to be incorrect. Jane's decision is whether or not to correct John. What would you advise Jane to do? (Check one)

_____ (a) Jane should correct John in class and run the risk of embarrassing him.

_____ (b) Jane should change the subject immediately, and correct John privately outside of class.

_____ (c) Jane should remain silent during the class, and correct John privately outside of class.

_____ (d) Jane should remain silent during the class, and ask John privately if he had considered the correct conclusion.

_____ (e) Jane should never let on at all she knows John made a mistake.

2. Sally and her boyfriend Dick are at a party with mutual friends. Jokingly, Dick suggests to Sally that they play a game of pool, not realizing that Sally is quite a good pool player. Everyone gathers around to watch - what would you advise Sally to do? (Check one)

_____ (a) Sally should play honestly and thereby beat Dick badly in front of their friends.

_____ (b) Sally should miss a few shots on purpose, but not enough to lose.

_____ (c) Sally should let Dick win by a little.

_____ (d) Sally should let Dick win by a lot.

3. Mary is out on a date with Tom, a boy she has wanted to know for a long time. During the course of the evening Tom talks a great deal about sociology, a field that they both major in. Mary knows that much of what Tom says is inaccurate. What would you advise Mary to do? (Check one)

_____ (a) Mary should ignore Tom's mistakes, and agree with him.

_____ (b) Mary should ignore Tom's mistakes, but make no comment.

_____ (c) Mary should disagree with Tom, but not insist that he is mistaken.

_____ (d) Mary should disagree with Tom, and actually point out his mistakes.

4. Ann is playing tennis with Peter, a boy she recently met. Ann is quite a good tennis player and after a few minutes she realizes that she is much better than her date. What would you advise Ann to do? (Check one)

_____ (a) Ann should let Peter win by a large margin.

_____ (b) Ann should let Peter win by a small margin.

_____ (c) Ann should miss a few shots on purpose, but not enough to lose.

_____ (d) Ann should play honestly and beat Peter badly.

Appendix B

Direct Measure of Dissimulation

Please answer the following questions. Circle the letter which best answers the question.

1. When on dates, how often have you pretended to be inferior in artistic knowledge or taste (in music, art, literature, etc.)?

   a. often
   b. several times
   c. once or twice
   d. never

2. How often have you pretended to be intellectually inferior while on a date?

   a. often
   b. several times
   c. once or twice
   d. never

3. How often have you "played dumb" on dates because you thought your data preferred you that way?

   a. often
   b. several times
   c. once or twice
   d. never

4. How often have you pretended to be athletically inferior when participating in some sport with a man?

   a. often
   b. several times
   c. once or twice
   d. never

5. How often have you been advised to act more "feminine"?

   a. often
   b. several times
   c. once or twice
   d. never

6. If a, b, or c, who gave the advice (You may circle more than one.)

a. mother
b. father
c. brother(s)
d. sister(s)
e. boyfriend
f. female friends
g. other male friends
h. other (indicate) _____

7. In general, do you have any hesitation about revealing your equality or superiority to men in intellectual, artistic, or athletic competence?

a. have considerable hesitation
b. have some hesitation
c. have very little hesitation
d. have no hesitation at all

8. In your opinion, to what extent is it damaging to a girl's chances for dates if she is known to be outstanding in academic work?

a. very much damaging
b. somewhat damaging
c. a little damaging
d. not at all damaging